

an efficient catalyst, enabling the direct addition of hydrogen to be accomplished at temperatures about 200 degrees Centigrade. Soon many patents were taken out, and nickel was now almost generally used in reduction work. In the case of the production of edible fat, such as margarine, it was usual to employ a coarser nickel catalyst prepared by the reduction of the oxide. Actual feeding experiments had been extensively carried out to determine if the effect of nickel was harmful, and it appeared that the nickel consumed was almost completely excreted, and that as much as half a gram (as the oxide) might be taken daily without ill effect. The nickel content of an edible oil was, however, insignificant and usually amounted to only a milligram per kilogram, which was much less than that found in foods cooked in nickel vessels where the metal was found present in from ten to sixty times that amount. Another field in which hydrogenation methods were of great service was the production of synthetic motor fuels. Catalytic methods had resulted in increasing the amount of motor fuel obtainable from natural petroleum by "cracking" the heavy oil residues. This process consisted in heating the heavy oil with a catalyst, such as copper,

ADV. 21-6-29
GARTON PRIZE AND MEDAL

To the Editor
Sir—The secretary of the British Empire Cancer Campaign has forwarded from the grand council thereof particulars of the Garton prize and medal, and has asked the Cancer Research Committee of the University of Sydney to bring the matter to the notice of those whom it might interest. A copy of the particulars referred to is enclosed herewith.—I am, &c.,

T. O'BRIAN,
Secretary, Cancer Research Committee, University of Sydney.
Particulars of rules and regulations to which all candidates must subscribe. The prize and medal has been instituted by the grand council of the British Empire Cancer Campaign with the object of promoting investigations into the nature, causes, prevention, and treatment of cancer. A medal (suitably inscribed and engraved with the seal and motto of the campaign), together with an honorarium of £500, will be awarded to the person or group of persons who shall submit the essay embodying the results of original investigations which, in the opinion of the judges, appointed by the grand council of the British Empire Cancer Campaign, is the best contribution toward the early diagnosis of cancer. In the event of several dissertations of sufficient merit being submitted, the prize may be divided, or additional awards made. The prize will be reserved if, in the opinion of the council, no dissertation of sufficient merit be received. Candidates, who may be of either sex, must be British subjects domiciled in the British Empire or Dominions, and not at the time members of the grand council of the British Empire Cancer Campaign. The honorarium may be awarded either to an individual or to a group of person who jointly submit a dissertation. The dissertations shall be printed or typewritten in English, and embody the results of original investigations carried out, either wholly or in part, during the three years immediately preceding the year in which the prize shall be awarded. The dissertations shall not bear the name of the author or authors, but shall be distinguished by a motto or device, and be accompanied by a sealed envelope containing the name and address of the author, and having on the outside the motto and device corresponding with that on the dissertation. The dissertations shall be addressed to the honorary secretary, British Empire Cancer Campaign, 19 Berkeley-street, London, W.1, and be delivered not later than December 31, 1931. The prize dissertation (with all accompanying illustrations and preparations) shall become the property of the British Empire Cancer Campaign, and shall be published at their discretion under the name of the author or authors. Dissertations not approved for a prize shall, upon authenticated application within three years of the award on the specified subject, be returned together with the unopened envelopes containing the names and addresses of the authors. The award of the Garton prize and medal will be made early in 1932.

Poisoning of the Catalyst
There was one phenomenon in regard to catalysis to which he wished to refer, which was known as "poisoning." The method of making sulphuric acid by the union of sulphur dioxide with oxygen in the presence of platinum was known as a laboratory operation more than a century ago, but efforts on a manufacturing scale to apply the reaction with the impure gases used resulted in failure until the beginning of this century. Then it was recognised that the inhibition of the catalytic activity of the metal was due to the presence of traces of arsenic in the sulphur dioxide used. That destruction of the activity of a catalyst was referred to as poisoning, and it was one of the chief points demanding consideration in all cases of catalysis which depended on absorption at the surface of the catalyst. Thus, if a small amount of carbon monoxide was present in hydrogen, the platinum catalyst was poisoned and could no longer bring about the union of the hydrogen with oxygen. In the hydrogenation of oils the nickel might be poisoned by small traces of sulphur compounds in various forms which resulted principally from the protein material present as impurity in the oil. The question of poisoning remained a riddle until it was shown that it was merely a case of preferential absorption of the poison on the surface of the catalyst. In the cases mentioned the arsenic or carbon monoxide was absorbed by the platinum and held tenaciously, and as a consequence the catalytic surface, instead of being available for the free absorption of the reacting molecules was partly or completely saturated with the absorbed poison and so became ineffective.

ADV 21-6-29

MIDDAY ORGAN RECITAL

There was a large and appreciative audience at the Elder Hall on Thursday, when Mr. John Horner gave the third of the present series of midday free organ recitals. A pleasing programme of examples of the works of early and modern French composers was submitted in Mr. Horner's accomplished style. The great variety of stop combinations and the technical and artistic powers of the performer made each item thoroughly enjoyable. Throughout the playing was distinguished by masterly manipulation of keyboard and pedals, and the applause indicated how thoroughly the audience entered into the spirit of the works presented. The items were:—"Grand Jeu" (Du Mage), "Prelude" (Clerambault), "Fugue on the Kyrie" (Couperin)—early composers, "Theme Provencal Varie" and "Alleluia" (Dubois), "The Little Shepherd"—from the "Children's Corner"—(Debussy), "Victimae Pascale" and "Terribilis est" (Lucien Mawet), "Allegro Vivace," "Allegro Cantabile," and "Toccata" from "Fifth Symphony" (Widor)—modern composers. Miss Phyllis Webb gave a pleasing rendering of the air, "De Lia" (Debussy).

ADV. 21-6-29

STATE PARLIAMENT
HOUSE OF ASSEMBLY
Cost of Education

The Minister of Education (Hon. M. McIntosh), in reply to Mr. Anthony Barry, said the cost per head of population for primary, secondary, and technical education, the University, the Public Library, and buildings, totalled 12/11 in 1910, £1 1/8 in 1920, and £1 16/2 in 1928. The expenditure on education for the year ended June 30 last, exclusive of the amounts paid by the Architect-in-Chief on account of buildings, was approximately £994,360.

NEWS 20-6-29

AGRICULTURAL RESEARCH

Work at Waite Institute

Recent developments in the work of Waite Agricultural Institute was the subject of an address by Prof. J. A. Prescott, M.Sc., at the school for farmers at Roseworthy College last night. Lantern slides were used to illustrate various points.

After giving a brief history of activities of the institute. Mr. Prescott discussed a number of examples of recent research in the domain of soil fertility.

His first illustration was the effect of a manganese deficiency on oats, which had been known at Mount Gambier for more than 30 years, and at other parts of the State. As a result of investigations made by Messrs. G. Samuel and C. S. Piper, of the institute, the Department of Agriculture has been able to conduct field demonstrations and trials in the cure of grey speck disease by the use of manganese salts.

The amount of work done at the institute by the use of modern statistical investigations was his next point. Tables giving the increased yields gained by using different quantities of manures on crops were shown.

Problems of nitrogen were dealt with. Owing to the amount of fallowing done in the wheat areas, nitrogen was seldom needed for the soil. There were, however, certain conditions which might make it convenient to plan farm rotation where nitrogenous fertilisers would be necessary. For grass in the wetter areas, and for vines and citrus fruits there was much scope for its use. In dealing with reactions of the soil Mr. Prescott dealt with the question whether lime should be used to increase soil fertility. It was, he said, a matter in which there was a conflict of opinion among agricultural officers in South Australia. Experiments at the institute had shown that where the rainfall was less than 25 inches, the necessity for liming the soil was rarely apparent.

ADV. 21-6-29
EDUCATION AND FOREIGN AFFAIRS

Sir Archibald Strong's plea for an "educational bureau" operating throughout the Empire, which he urged in a speech before the Commonwealth Club yesterday, embodies an excellent idea. It is an idea that admits of indefinite expansion, for it is not the Empire alone whose people would benefit by the machinery for the promotion of a knowledge of international affairs and the correction of misstatements affecting other countries, which Sir Archibald proposes should be set in motion. There is probably not a country which has not suffered from unfounded allegations affecting its interests or honor, and the British Empire has special ground for complaint, for it is difficult to recall a time when it has not been a victim of misrepresentation from one country or another. Indeed, there have been occasions when countries have been leagued together apparently for no other purpose than her vilification. Sir Archibald mentions as an example an attempt in France to under-estimate the service rendered by the British to the Allied cause in the Great War, to which he adds as another flagrant instance of misrepresentation the relation of the motherland to the Dominions, which were said to be longing for release from her tyrannous rule. A bureau or institute of information would provide means by which such mendacious assertions might be authoritatively and at once refuted. The harm they may do was particularly apparent to Sir Archibald when travelling in India, for he found the White Australia policy distorted into a deliberate campaign of hatred against the colored people of that dependency, which the policy is so far from being that it really seeks to obviate the friction that might arise (and has arisen in parts of Africa) through enforced association of races of different blood and color. The scandalous perversions of truth, which Sir Archibald wishes to see refuted with the help of an official department accessible to anyone in search of information, are no more extravagant than those prevailing at the expense of Britain for centuries past. But to be fair, it must be owned that other countries have been travestied no less wantonly among British people. Long after the Battle of Waterloo Bonaparte was caricatured in England as a sort of incredible monster, who only wanted certain appendages to make him easily recognisable as a near relation of the Evil One. Thackeray alludes to the distorted view in his "Roundabout Papers," and helps to disabuse the minds of his countrymen of other absurd superstitions. Since his time, especially during the past two or three decades, insular views have given place to a better knowledge of the brave and polite French people, who have shown themselves as gallant on the battlefield as they are courteous in social relations. It is disheartening to learn from Sir Archibald's remarks that the same enlightenment as to British traits does not exist in France, or even among the English-speaking race on the other side of the Atlantic. All this may arise from lack of education in foreign affairs, which Sir Archibald deplors, and desires to see corrected among his countrymen at least. How many could give a connected account of British foreign policy from a date so recent as the Crimean war, or could say why Sardinia ranged herself with Britain and France in their successful effort to save Turkey from the clutches of Russia? Yet there are few chapters in history more enthralling than those which have to do with the part taken by the Empire in the world's history during comparatively recent years. Without such knowledge no one is really competent to pronounce,

say, on the wisdom or otherwise of the Locarno Treaty, or venture an opinion on any other question of foreign policy affecting the Empire.

ADV. 22-6-29
PIANOFORTE RECITAL

There were large attendances of teachers and students of the pianoforte at the Elder Hall on Friday, when Mr. William Silver gave the third of the present series of recitals of works comprised in grades IV, and I. of the University Musical Examination Board's selections. The director of the Conservatorium, Dr. E. Harold Davies, explained the features of the various items, thus enabling students to follow and appreciate the several points of meritorious interpretation. Mr. Silver presented each number with scholarly refinement, and teachers were invited to send up written questions. These recitals should prove of distinct advantage to teachers and students. The works played were:—Grade 4—"Etude" (Bertini), "Aria" (Handel), "Sonatina" (Diabelli), "Bagatelle" (Beethoven), "Etude" No. 4 (Heller), "Prelude in D" No. 4 (Bach), "Minuet in G" (Beethoven), "Liebeslied" and "Impromptu" (Hofman). Grade 1—"Prelude and Fugue in B" (Bach), "Sonata in F Sharp" (Beethoven), "Intermezzo in B Flat Minor" (Brahms), "Nocturne in E" (Chopin), "Caprice in E Minor" (Mendelssohn), "Prelude and Fugue in F Sharp" (Bach), "Sonata in D," Op. 10 (Beethoven), "Impromptu in F Sharp" (Chopin), "Aufschwung" (Schumann), "Nocturne in E" (Schumann), and "The Sea" (Palmgren).

ADV 25-6-29

CHAMBER MUSIC CONCERT

Miss Sylvia Whittington had sufficient reason for gratification at the success of the first recital of the Elder Conservatorium String Quartet, under her leadership, on Monday night. A large and responsive audience and an artistic performance should encourage the combination to continue their educational efforts. The Elder Hall is perhaps not ideally suited for chamber music concerts, but the general effect was pleasing, and the opportunity afforded the public of hearing such a fine piece of musical writing as Beethoven's "Quartet in F," opus 18, given with careful attention to shading and finished detail was greatly appreciated. Miss Whittington took the first violin in this number, Miss Kathleen Meehan the second violin, Miss Clarice Gmelner the viola, and Mr. Harold Parsons the violoncello. The instruments played together sympathetically, and an admirable balance of tone was maintained throughout the graceful work. In the opening "Allegro con brio" the brightness of the music and the suggestive figures made a good impression, which was deepened by the convincing style in which the following "Adagio" movement, with its wealth of beauty and poetical suggestiveness was performed. Some brilliant playing marked the interpretation of the "Scherzo—Allegro Molto" section, and the final "Allegro" roused the audience to enthusiasm. Throughout the work was treated with commendable insight, and the distinguishing features of each phase were adequately emphasised. Not less creditable was the performance of the "Trio in E Flat," opus 4 (Brahms) for piano, (Mr. J. Horner), violin (Miss Whittington) and violoncello (Mr. Parsons). The work, like the Beethoven number, represents a high form of musical art, and each of the performers entered into its meaning sympathetically. Very pleasing were the effects produced in the "Andante," with which the trio is introduced. The figures were clearly uttered and the beautiful tone was in keeping with the grace with which the ideas are developed. In the "Scherzo," which, as the programme reminded those present, contains some suggestion of hunting scenes, the instruments surmounted all difficulties with apparent ease. A pleasing atmosphere pervaded the "Adagio" in which the violoncello did excellent work. The final phase—"Allegro con brio"—gave the players an opportunity of displaying executive skill and artistic feeling of which they took full advantage. The piano part throughout was impressive.

Miss Hilda Gill, whose presence on the concert platform is always greeted with enthusiasm, charmed the audience with her refined interpretation of an excellent bracket of songs. Each item was presented with appropriate effect and a full appreciation of the sentiment expressed. "For Music" (Franz), a dainty and fanciful little work, was invested with poetic feeling. "Lullaby" (Brahms) made a delightful contribution, and the quiet beauty of the melodious composition was presented with proper restraint. "Rosemary" (Franz) and "Love Song" (Brahms) were sung with the culture and finish always displayed by the popular contralto. Each item on the programme was received with well merited applause.

REG. 25-6-29

National Research University Discussed

CANBERRA, Monday.—Preliminary discussions by an advisory committee appointed by the Federal Government to assist in establishing a national university are being held. The discussions will last two days. Out of them will probably come recommendations for the beginning of a research university.